

WHAT IS CLAIMED IS:

1. A system for interworking between a SS7 broadband network and an Internet Protocol network to provide transport of connection oriented information,  
5 comprising:

a radio node controller in the SS7 network operable to generate SS7 formatted information for transport in an Asynchronous Transfer Mode Permanent Virtual Circuit in response to communications with a mobile unit;

10 a signaling gateway operable to receive the SS7 formatted information carried in the Asynchronous Transfer Mode Permanent Virtual Circuit from the radio node controller, the signaling gateway operable to map the SS7 formatted information into Internet Protocol information the signaling gateway operable to transport the Internet Protocol formatted information in an Stream Control Transmission Protocol stream associated with the Asynchronous Transfer Mode Permanent Virtual Circuit;

15 20 a mobile switching center in the Internet Protocol network operable to receive the Internet Protocol formatted information on the Stream Control Transmission Protocol stream.

25 2. The system of Claim 1, wherein the signaling gateway includes a table defining an association between Asynchronous Transfer Mode Permanent Virtual Circuits and Stream Control Transmission Protocol streams.

30 3. The system of Claim 1, wherein the SS7 format information includes a reference value identifying a connection between the radio node controller and the mobile switching center.

4. The system of Claim 3, wherein the reference value is generated by the mobile switching center during establishment of the connection.

5 5. The system of Claim 1, wherein the mobile switching center is operable to generate Internet Protocol formatted response information in response to receipt of the Internet Protocol formatted request information.

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6. The system of Claim 5, wherein the mobile switching center includes a table defining an association between Stream Control Transmission Protocol streams and radio node controllers.

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7. The system of Claim 5, wherein the Internet Protocol formatted response information includes a reference value identifying a connection established between the radio node controller and the mobile switching center.

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8. The system of Claim 4, wherein the mobile switching center transports the Internet Protocol formatted response information over a Stream Control Transmission Protocol stream associated with the radios node controller.

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9. The system of Claim 8, wherein the signaling gateway is operable to receive the Internet Protocol formatted response information over the Stream Control Transmission Protocol stream associated with the radio node controller, the signaling gateway operable to map the IP formatted response information into SS7 formatted response information.

10. The system of Claim 9, wherein the signaling gateway transports the SS7 formatted response information on the asynchronous transfer mode permanent virtual circuit corresponding to the radio node controller.

11. A method for interworking between a broadband SS7 network and an Internet Protocol network to provide transport of connection oriented information, comprising:

5 receiving SS7 formatted request information on an Asynchronous Transfer Mode Permanent Virtual Circuits;

mapping the SS7 formatted request information into Internet Protocol formatted response information;

10 transporting the Internet Protocol formatted request information on a Stream Control Transmission Protocol stream associated with the Asynchronous Transfer Mode Permanent Virtual Circuits.

12. The method of Claim 11, further comprising:

15 maintaining associations between Asynchronous Transfer Mode Permanent Virtual Circuits and Stream Control Transmission Protocol streams.

13. The method of Claim 11, further comprising:

20 receiving Internet Protocol formatted response information on Stream Control Transmission Protocol stream in response to the Internet Protocol formatted request information;

mapping the Internet Protocol formatted response information into SS7 formatted response information;

25 transporting the SS7 formatted response information on an Asynchronous Transfer Mode Permanent Virtual Circuits associated with the Stream Control Transmission Protocol stream.

30 14. The method of Claim 13, wherein the Stream Control Transmission Protocol stream is associated with an originator of the SS7 formatted request information.

15. The method of Claim 13, wherein the SS7 formatted request information includes a reference value associated with a connection for transporting the Internet Protocol formatted request information.

16. A device for interworking between a broadband SS7 network and an Internet Protocol network to provide transport of connection oriented information, comprising:

5       a signaling gateway operable to receive SS7 formatted request information on an Asynchronous Transfer Mode Permanent Virtual Circuits, the signaling gateway operable to map the SS7 formatted request information into Internet Protocol formatted request information, the signaling gateway operable to transport the Internet 10 Protocol formatted request information on an Stream Control Transmission Protocol stream associated with the Asynchronous Transfer Mode Permanent Virtual Circuits.

15       17. The device of Claim 16, wherein the signaling gateway is operable to receive Internet Protocol formatted response information on the Stream Control Transmission Protocol stream in response to the Internet Protocol formatted request information.

20       18. The device of Claim 17, wherein the signaling gateway is operable to map the Internet Protocol formatted response information into SS7 formatted response information, the signaling gateway operable to transport the SS7 formatted response information on the 25 Asynchronous Transfer Mode Permanent Virtual Circuits associated with the Stream Control Transmission Protocol stream.

19. The device of Claim 17, wherein the SS7  
formatted request information includes a reference value  
identifying a connection for the SS7 formatted and  
Internet Protocol formatted request information and the  
5 Internet Protocol formatted and SS7 formatted response  
information.

20. The device of Claim 16, wherein the signaling  
gateway includes a table to maintain associations between  
10 Asynchronous Transfer Mode Permanent Virtual Circuits and  
Stream Control Transmission Protocol streams.

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21. A device for interworking between a broadband SS7 network and an Internet Protocol network to provide transport of connection oriented information, comprising:

5 means for receiving SS7 formatted request information on an Asynchronous Transfer Mode Permanent Virtual Circuits;

means for mapping the SS7 formatted request information into Internet Protocol formatted response information;

10 means for transporting the Internet Protocol formatted request information on a Stream Control Transmission Protocol stream associated with the Asynchronous Transfer Mode Permanent Virtual Circuits.

15 22. The device of Claim 21, further comprising:

means for maintaining associations between Asynchronous Transfer Mode Permanent Virtual Circuits and Stream Control Transmission Protocol streams.

20 23. The device of Claim 21, further comprising:

means for receiving Internet Protocol formatted response information on Stream Control Transmission Protocol stream in response to the Internet Protocol formatted request information;

25 means for mapping the Internet Protocol formatted response information into SS7 formatted response information;

means for transporting the SS7 formatted response information on an Asynchronous Transfer Mode Permanent Virtual Circuits associated with the Stream Control Transmission Protocol stream.

24. The method of Claim 21, wherein the Stream Control Transmission Protocol stream is associated with an originator of the SS7 formatted request information.

5 25. The device of Claim 21, wherein the SS7 formatted request information includes a reference value associated with a connection for transporting the Internet Protocol formatted request information.

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26. A computer readable medium including code for interworking between a broadband SS7 network and an Internet Protocol network to provide transport of connection oriented information, the code operable to 5 perform a process comprising:

receiving SS7 formatted request information on an Asynchronous Transfer Mode Permanent Virtual Circuits;

mapping the SS7 formatted request information into Internet Protocol formatted response information;

10 transporting the Internet Protocol formatted request information on a Stream Control Transmission Protocol stream associated with the Asynchronous Transfer Mode Permanent Virtual Circuits.

15 27. The computer readable medium of Claim 26, wherein the code is further to:

receiving Internet Protocol formatted response information on Stream Control Transmission Protocol stream in response to the Internet Protocol formatted 20 request information;

mapping the Internet Protocol formatted response information into SS7 formatted response information;

transporting the SS7 formatted response information on an Asynchronous Transfer Mode Permanent Virtual Circuits associated with the Stream Control Transmission 25 Protocol stream.

30 28. The computer readable medium of Claim 27, wherein the code is further operable to maintain associations between Asynchronous Transfer Mode Permanent Virtual Circuits and Stream Control Transmission Protocol streams.